

## A NEW SPECIES OF XIPHYDRIIDAE (HYMENOPTERA) FROM CHILE

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### ABSTRACT

*Derecyrta beechei*, n. sp., is described from Chile. It is placed in *Derecyrta* Smith of the tribe Derecyrtni even though certain character states such as the presence of 2r in the forewing and presence of tarsal pulvilli do not exactly fit the current generic and tribal classification. Slight modifications are proposed in the definitions of Derecyrtni, Brachyxiphini, *Derecyrta*, and *Steirocephala* Benson, and a key is provided for the genera of Derecyrtninae.

### RESUMEN

Se describe *Derecyrta beechei* n. sp., de Chile. Es ubicada en *Derecyrta* Smith, tribu Derecyrtni, aún cuando el estado en que se presentan ciertos caracteres, no concuerda exactamente con la comprensión actual al nivel genérico ni tribal; entre estos caracteres se tiene: presencia de vena 2r en el ala anterior y pulvilli tarsal. Se proponen pequeñas modificaciones en las definiciones de Derecyrtni, Brachyxiphini, *Derecyrta* y *Steirocephala* Benson y se entrega una clave para el reconocimiento de géneros de Derecyrtni.

### INTRODUCTION

A difficulty in studying some groups, such as the Xiphydriidae, is the lack of available material. This is especially true of the Neotropical Xiphydriidae where many species are known from only one or several specimens. I had available less than 50 specimens of 4 genera and 17 species for my revision (Smith, 1988). Thus, it is not surprising to find additional species of Xiphydriidae, and also not surprising to find one so anomalous as to require reevaluation of the current classification. Collection of some species is a once in a lifetime experience. Even though based on a single specimen, each is a building block toward a better classification, and it is important to make the discoveries known.

### RESULTS

The species described here as *Derecyrta beechei* is certainly new. The problem it poses is that it does not fit the current tribal and generic classification of the family. *Derecyrta beechei* belongs in the subfamily Derecyrtninae, as defined by Benson (1954) and Smith (1988), possessing most characters of that subfamily: pronotal collar not deeply excavated in front; mesoscutellum with a dorsal area margined by a carina and with a prominent tubercle near its apex; hindfemur not swollen (four to seven times as long as broad); hindclaw enlarged and nearly two times the size of the midclaw; and the sawsheath about half to two-thirds the length of the basal plate. The only point that needs revising is the swollen hindfemur: in *D. beechei*, the hindfemur is only three times longer than broad. In the tribal and generic classification, however, *D. beechei* cannot be placed as it shares character states with the two included tribes and three genera. Thus, there are three choices: describe a new genus and tribe, synonymize the taxa involved, or redefine the current tribal and gene-

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ric limits to accommodate it. At this time, I choose the latter.

The Derecyrtae contains three genera in two rather distinct tribes, the Derecyrteni and Brachyxiphini. *Derecyrta beechei* shares most characteristics with the Derecyrteni: temples of head almost impunctate behind and glabrous (with long hairs, longer than the first flagellar segment, and commonly dull and punctate in Brachyxiphini); hindfemur swollen medially, about three to five times as long as broad (slender and nearly seven times longer than broad in Brachyxiphini); and apical hindtarsal segment of female shorter than basitarsus (much longer than basitarsus in Brachyxiphini). However, a key character is the presence (Brachyxiphini) or absence (Derecyrteni) of vein 2r in the forewing. *Derecyrta beechei* has 2r, a character shared with the Brachyxiphini. I place this species in the Derecyrteni because it shares more derived character states with that tribe, the head sculpturation and setation, hindfemur shape, and short apical hindtarsal segment. Unless the presence of vein 2r in the specimen of *D. beechei* is an anomaly, the presence or absence of this vein can no longer be entirely valid. Also, the presence of this vein is not as significant because it is an ancestral character state seen in almost all other Symphyta.

Two genera are known in Derecyrteni, *Derecyrta* Smith and *Steirocephala* Benson. Four character states separate these two genera: presence (*Steirocephala*) or absence (*Derecyrta*) of bilobed tarsal pulvilli; presence (*Steirocephala*) or absence (*Derecyrta*) of a genal carina; presence (*Steirocephala*) or absence (*Derecyrta*) of preapical spurs on the mid- and hindtibiae; and the third antennal segment two times the length of the fourth segment (*Steirocephala*) or one and one-half times the length of the fourth (*Derecyrta*). *Derecyrta beechei* lacks a genal carina and lacks preapical spines on the tibiae, as in *Derecyrta*. The species possesses very small bilobed tarsal pulvilli and the third antennal segment is twice the length of the fourth segment, as in *Steirocephala*. Because the lack of a genal carina and lack of preapical spines on the tibiae are the more derived character states, I believe that *D. beechei* is clearly part of the

*Derecyrta* lineage and choose to place this species in *Derecyrta*. When more material and perhaps other species are discovered, this may again change, but at present, I prefer this approach. With the discovery of *Derecyrta beechei*, as well as a new *Brachyxiphus* Philippi recently described (Smith, 1995) with a shiny impunctate head, I revise my 1988 key to genera of Derecyrtae. The status of *Eoxiphia* Maa, the only other xiphydriid genus in the neotropics and placed in the Xiphydriinae, is uncertain (Smith, 1988) and is not included.

#### KEY TO GENERA OF DERECYRTINAE

1. Apical hindtarsal segment of female much longer than basitarsus; hindfemur slender, nearly 7X longer than broad; head with long standing hairs, roughened and dull or shining; vein 2r of forewing present . . . . . *Brachyxiphus*
- Apical hindtarsal segment of female shorter than basitarsus (Fig. 3); hindfemur swollen, only 3 to 5X longer than broad (Fig. 3); head glabrous, shiny and impunctate behind ocelli; vein 2r of forewing usually absent . . . . . 2
2. Genal carina absent; mid- and hindtibiae without preapical spines; bilobed tarsal pulvilli absent or present and very small . . . . . *Derecyrta*
- Genal carina present; mid- and hindtibia with preapical spines; bilobed tarsal pulvilli present . . . *Steirocephala*

#### *Derecyrta beechei* Smith, new species (Figs. 1 - 4)

**Female:** Length, 20 mm. Antenna dark orange, scape and pedicel darker than flagellum. Head black with broad yellow stripe on outer orbit from near lower part of eye to top of head, broad yellow stripe on inner eye margin from lower part of eye to top of eye, and shorter yellow stripe from lateral ocellus to two-thirds way to posterior margin of head. Mandible dark reddish brown; apical 4 segments of maxillary palpus and segments 2 and 3 of labial palpus yellow. Thorax black with upper corner of mesepisternum and posterior half of mesoscutellum yellow. Abdomen black with lateral yellow spot on 2nd tergum, dorsal yellow transverse bands on 5th and 6th terga, entire transverse yellow band on 8th tergum, and yellow spot at extreme apex of 10th tergum; dorsal and posterior margins of sheath narrowly yellowish. Legs dark orange (as an-



Figures. 1-4. *Derocyrtia beechei*, n.sp. 1. Wings. 2, Dorsal view. 3, 4, Lateral views.



tennae) with coxae and 1st trochanter segments black and small yellow spot on outer surface of extreme apex of hindfemur. Wings uniformly yellowish; stigma and apical 1/4 of costa and subcosta black, remaining veins dark orange. Antenna 27-segmented; 3rd segment 2X length of 4th segment. Maxillary palpus 7-segmented, labial palpus 4-segmented; maxillary palpus slender and more than 3X length of labial palpus; apical segment of labial palpus enlarged, globular. Genal carina absent. Head and body glabrous and shining, without microsculpture; large scattered punctures on mesopleuron, separated by broad, shiny interspaces; mesonotum more densely punctate, slightly duller than pleuron and with mesoprescutum somewhat reticulate. Preapical tibial spines absent; hindfemur swollen, about 3X longer than broad; apical hindtarsal segment half length of basitarsus; hindclaw about 2X size of midclaw; small bilobed tarsal pulvilli present. Forewing with vein 2r. Sawsheath about 2/3 length of basal plate.

**Holotype:** Female, labeled "Chile - 10<sup>a</sup> Region, Los Alerzales, Feb. 1984, coll. M. Beeche." Region X is also known as Región de Los Lagos. Deposited in the Museo Nacional de Historia Natural, Santiago, Chile.

**Etymology:** Named for the collector, Marcos A. Beéche C., Servicio Agrícola y Ganadero, Departamento de Protección Agrícola, Santiago, Chile.

**Discussion:** The collector (personal communication) noted that this specimen was taken in flight at "Cordillera Pelada, above 1.200 m.s.n.m., in a native conifer forest of "Alerce" (*Fitzroya cupressoides*)" in southern Chile. It was flying between the foliage of the Alerce at about 13:00.

This species is separated from other *Derecyrtia* species by the presence of vein 2r in the forewing, small bilobed tarsal pulvilli, and

characteristic yellow marks as described and shown in the figures. Other *Derecyrtia* species, except *D. circularis* Smith, are all black or black with the thorax and abdomen partly red. *Derecyrtia circularis* from Venezuela, though lacking 2r and lacking tarsal pulvilli, has similar yellow markings, but the upper third of the mesepisternum is yellowish, there are lateral yellow spots on abdominal segments 2 to 8, and the wings are uniformly blackish.

In case *D. beechei* is confused with *Steirocephala*, it will key to *S. reedii* (Kirby) and *S. ruficeps* (Brèthes) in my 1988 key because of its orange legs and uniformly orange antennae. However, *D. reedii* has the head and thorax black and the abdomen black with segments 2 - 4 and most of 5 reddish, and *D. ruficeps* has the head mostly reddish and abdomen entirely black.

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#### LITERATURE CITED

- BENSON, R.B. 1954. Classification of the Xiphydriidae (Hymenoptera). Transactions of the Royal Entomological Society of London, 105: 151-162.
- SMITH, D.R. 1988. A synopsis of the sawflies (Hymenoptera: Symphyta) of America south of the United States: introduction, Xyelidae, Pamphiliidae, Cimbicidae, Diprionidae, Xiphydriidae, Siricidae, Orussidae, Cephidae. Systematic Entomology, 13: 205-261.
- SMITH, D.R. 1995. Rediscovery of *Corynophilus punilus* (Klug), and a new genus and two new species of Symphyta from South America (Hymenoptera, Pergidae, Xiphydriidae). Revista Brasileira de Entomologia, 39 (1): 161-169.